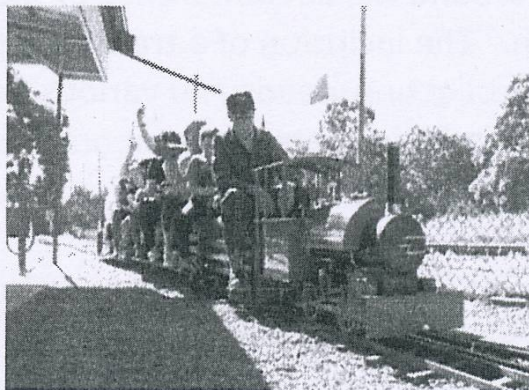




**SOUTH AUSTRALIAN SOCIETY OF MODEL
& EXPERIMENTAL ENGINEERS**

RETURN THIS BOOK PROMPTLY TO LIBRARY
The official Journal of

**The South Australia Society of
Model & Experimental Engineers Inc.**



FEBRUARY 2017

ISSN / 0155 / 3700

(This bulletin is issued for information only)

HAPPENINGS.

Since reporting in the October 2016 Bulletin a number of Happenings have /are taking place within SASMEE.

Jeff Schaefer has taken over as Secretary , this is following the movement of Ian Foster to Clare where is now living.

SASMEE thanks Ian for his past contribution and wishes him all the best for the future.

The "Water Wheel" in the pond has proved effective in causing a clockwise circular move of water around the circumference of the pond with the aim of restricting weed growth. The inclusion of a trash rack placed some 10metres or so after the Wheel is collecting weeds and various debris. Water movement around the pond has a rate of about one revolution in a quarter of an hour.

On a bigger scale, plans for the approval of a "Round House" type roof over the 71/4" steaming bays and an extension to the 5" steaming area are with the Unley Council. These are major building projects with a substantial financial outlay. The Council have made a generous donation, which will lessen the burden on SASMEE. The site construction will be undertaken by the materials supplier. The layout of the Round House is such that there will be minimal disruption with only one steaming bay line requiring re-location.

The "Wednesday construction crew" has been busy replacing the roof structure over the boat pond seating area. This structure was an old carport [thought to be donated? many decades ago] and was showing its age as well as being of a rather lightweight construction. The roof has been replaced with colour bond type roofing with a substantial channel iron edge capping. A repaint has been applied and the result is better than new.

The XMAS BBQ on the 3rd Saturday in December was a most enjoyable event. The weather was kind, and the cooking of the BBQ was of an exceptional high standard with particular reference to the patties. Dessert topped of the evening. Members supplied the motive power with driving open to all comers. A good night enjoyed by all.

The show of work display in November bought out a range of projects, both in quantity and quality. The attached photos do not do justice to the projects but will give some form of recognition to the following ,

A substantial 4 wheel chassis based on a "Meccano Concept" by Brenton Dicker aroused a great deal of discussion. [Subject of a talk?]

Kingsley Martin brought along two units. A superb Commonwealth Railways van, and a power bogie off his newly completed [and running] NSU in 5" gauge profile diesel. Jeff During brought along his opposed twin cylinder IC engine. This unit was to Jeff's design and construction, a very nice unit. Bob Smith had a very well detailed frame of his 5" g. Centenary Car on display. Close study of this project reveals a high degree of detailed fitting and construction.

John Foster featured a twin side paddle steamer ,the PS Curlap. This being a faithful replica of the original with evidence being provided by a photograph. What is noteworthy is the 3D printing of the steering wheel. This display of technology is what could become a trend setter in modelling.

Michael Priest's trawler was a display of great detail and fine line. Named Raelean M, we look forward to its pond appearance.

St louis Belle is the name given to Mike Offler's rear end paddle steamer. A long time in the making the finished item is full of detail.

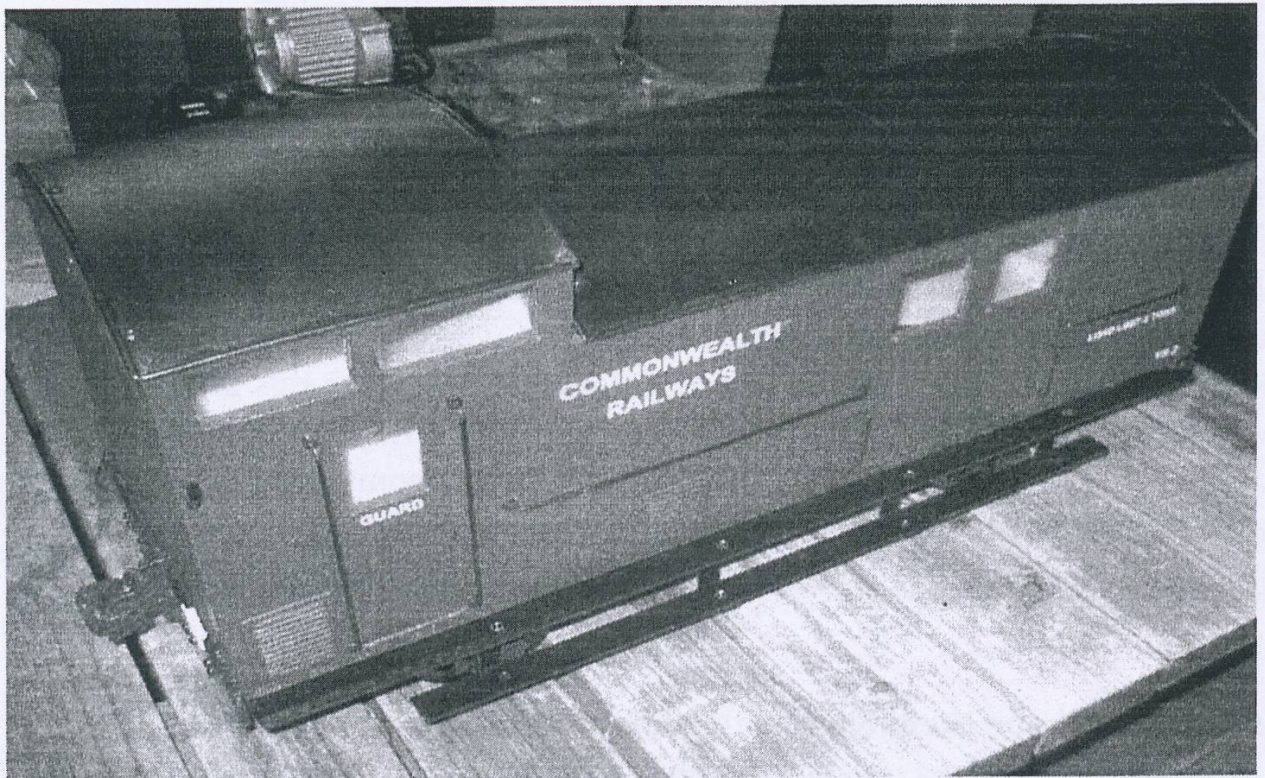
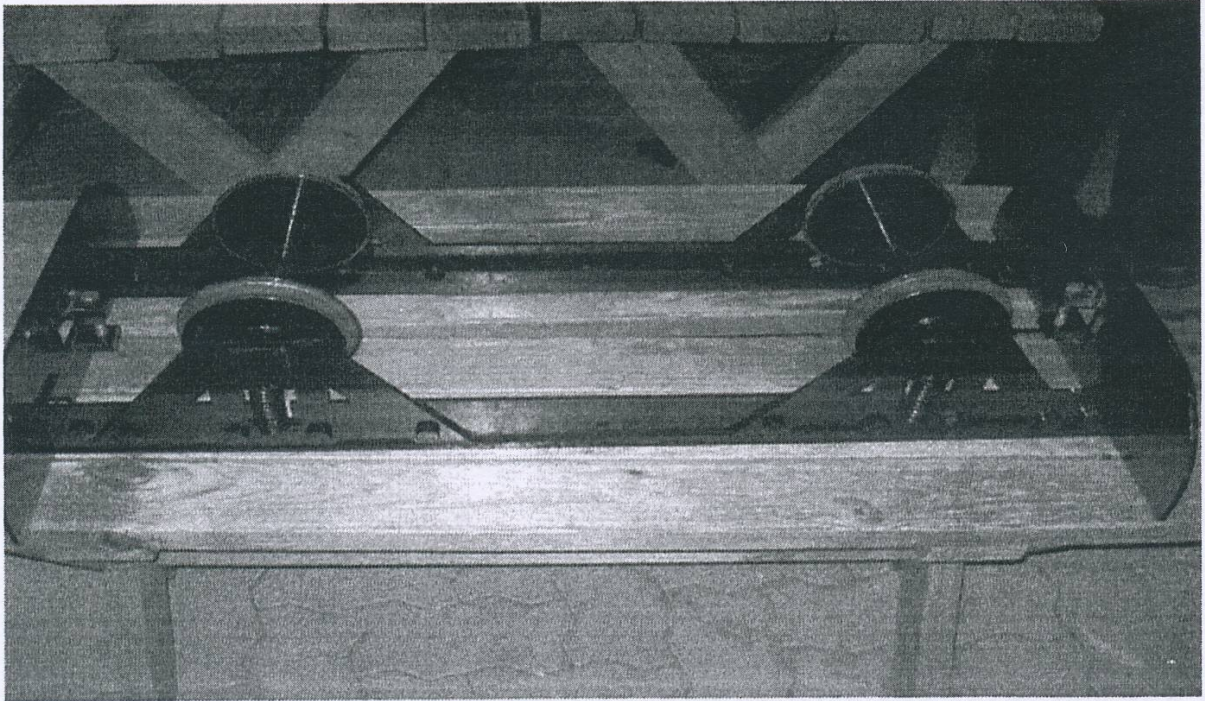
Michael Tingay's NB30 Commonwealth Diesel is coming along very nicely. Of heavy construction this model is something to look forward too. The laser cut base gives a very accurate structure to build upon.

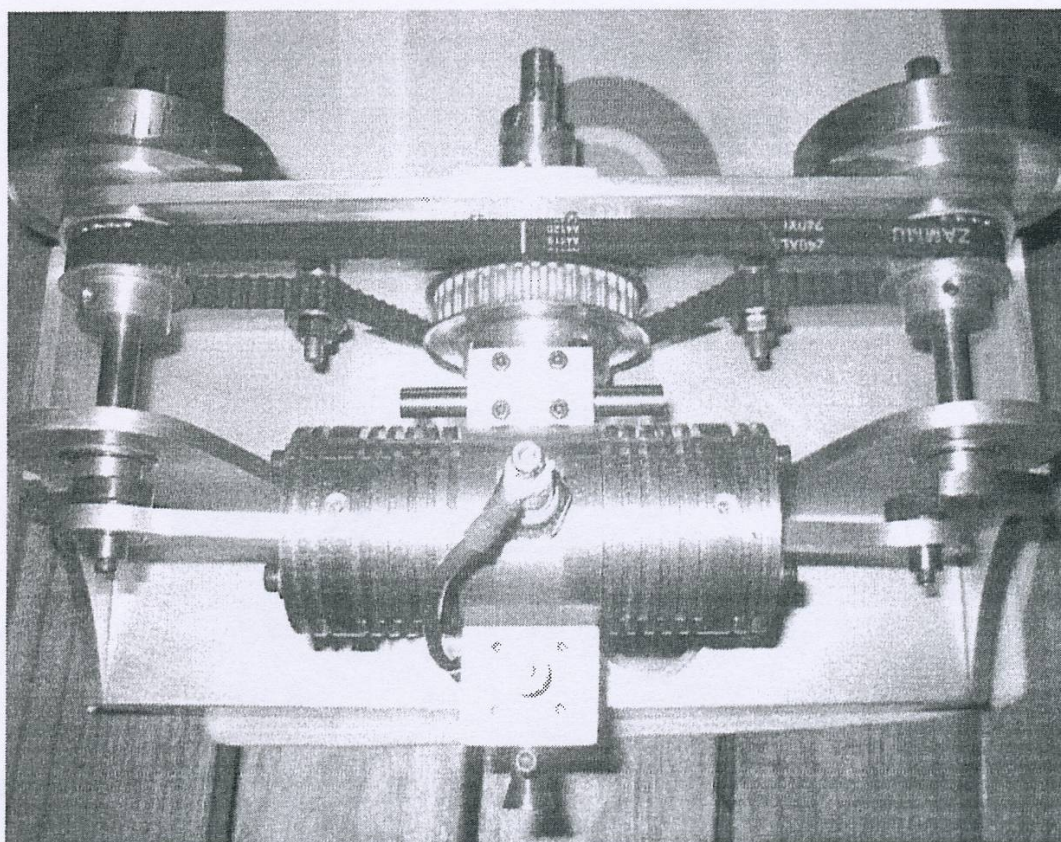
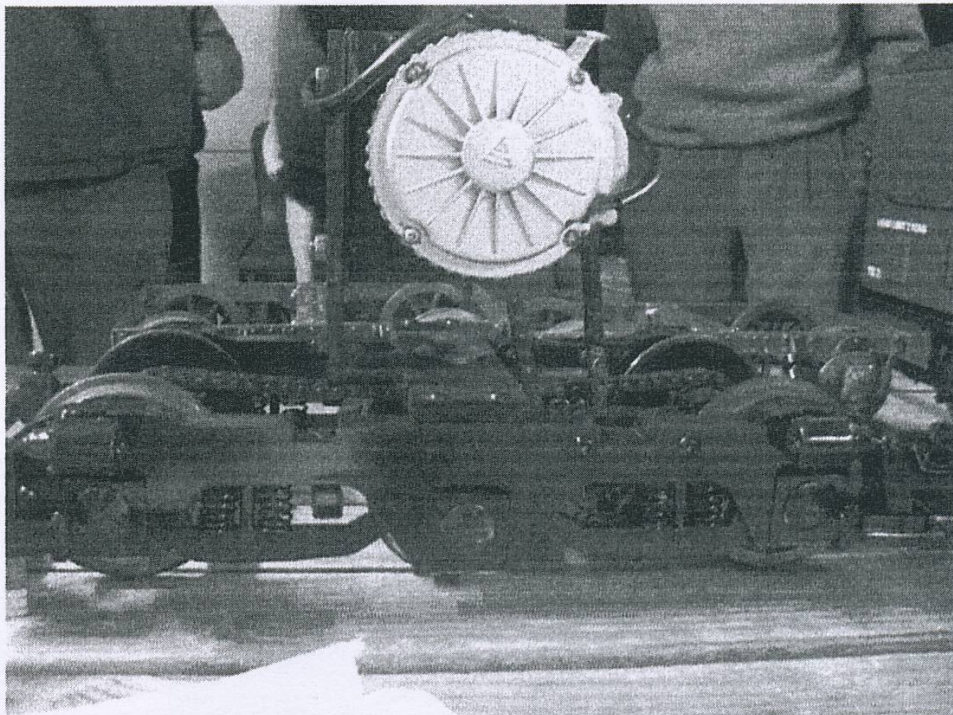
Sited on an outside rail was Bryan Homann's 2-6-4 tank loco in 5" g.

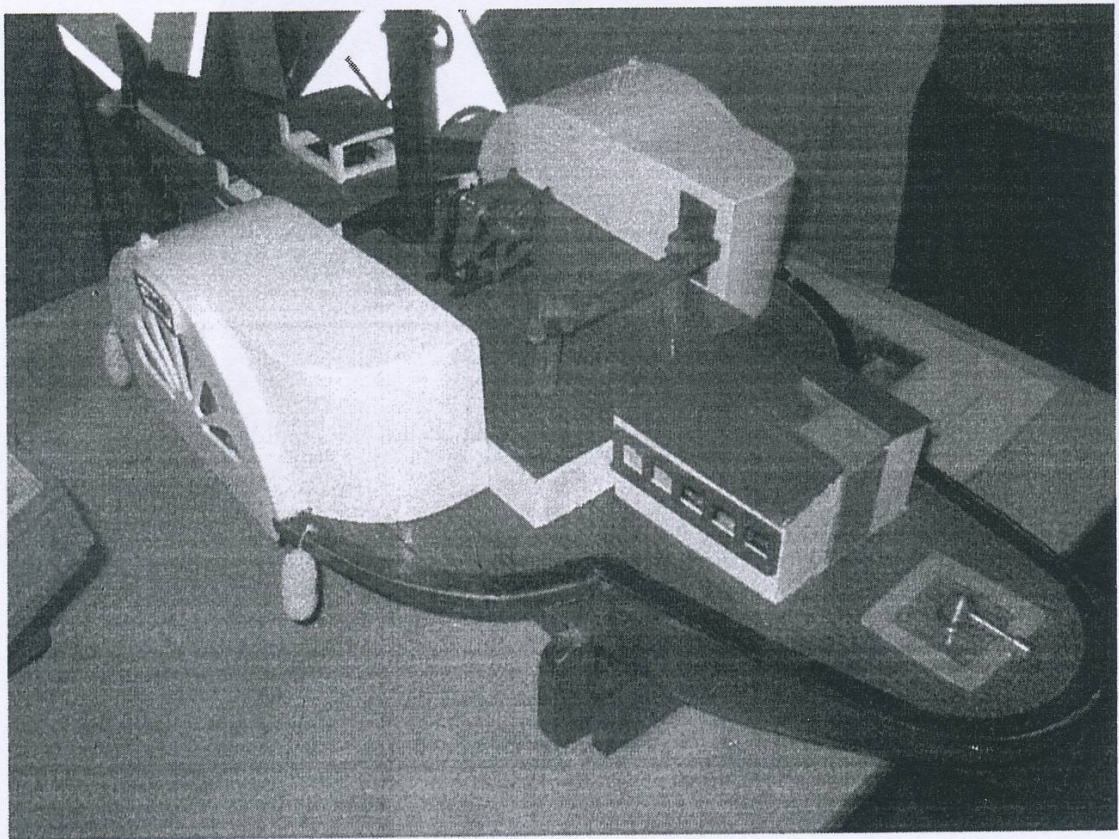
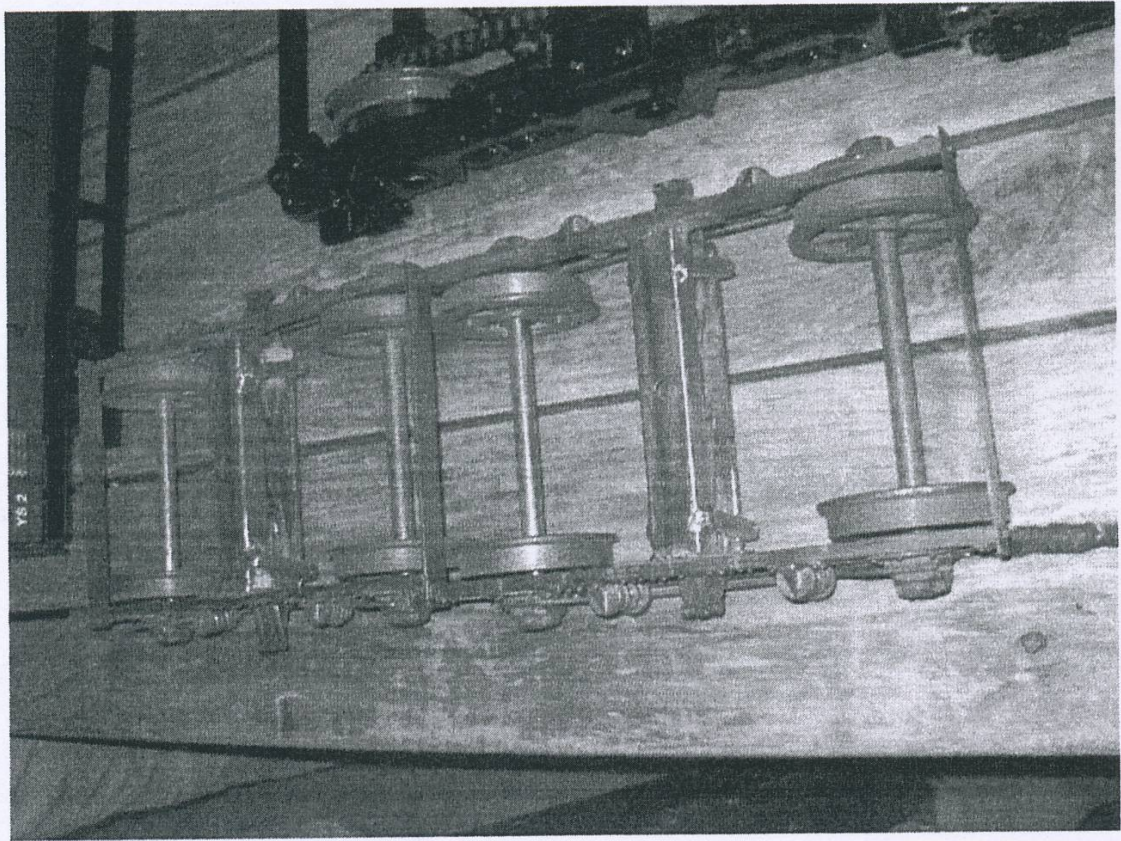
"Jubilee". This loco came to Bryan in a rather derelict condition having been stored in a shed in a partially stripped condition. The original builder was Howard Bateup. Bryan has done a first class job in bringing this prestige loco back to life. Malcolm Ambler displayed a very neat "Tinplate Traction Engine" A very well put together project featuring a complex drive unit which did not distract from its vintage appearance.

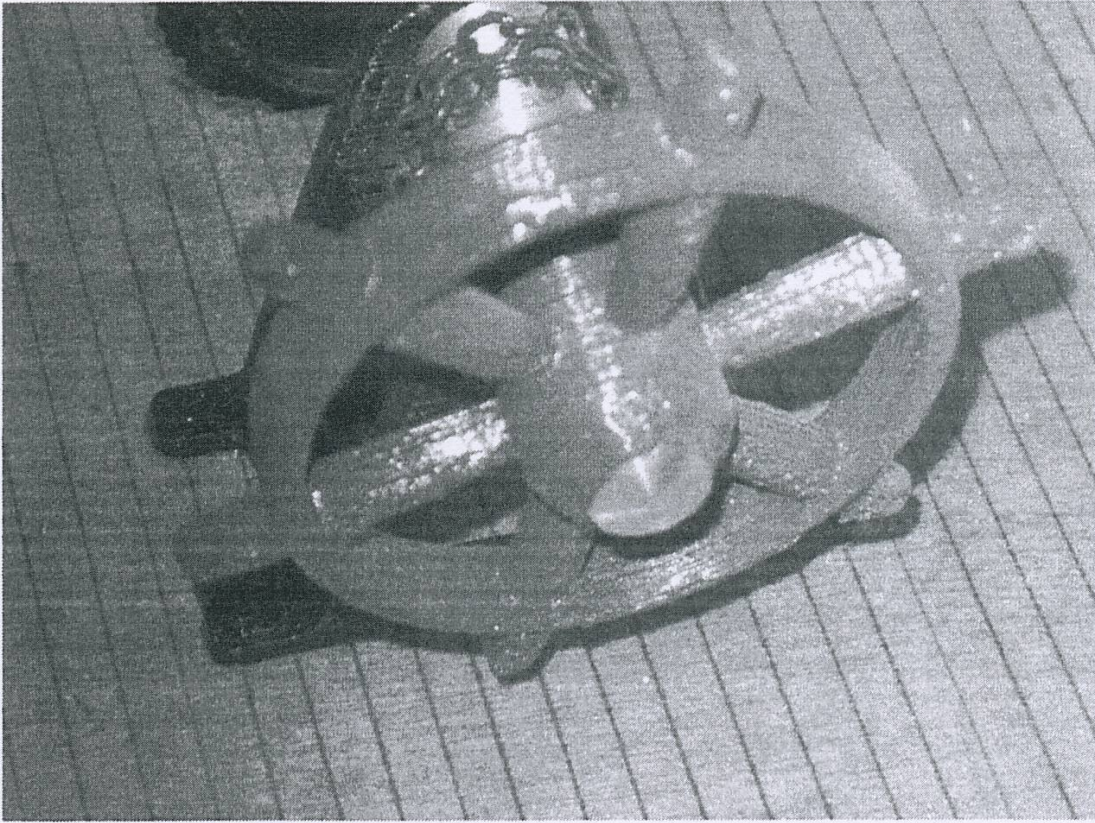
Bill Coles featured a 21degree vertical twin IC engine, "Hoglet".

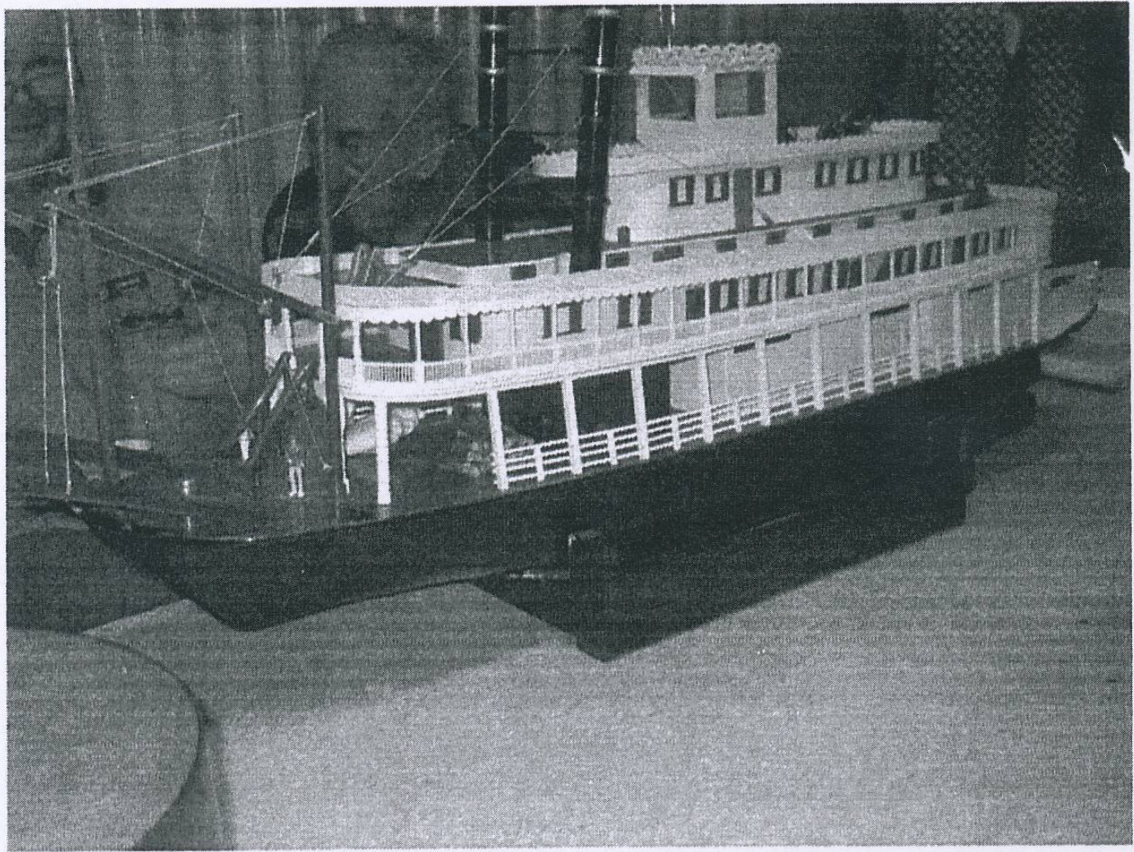
As an aside, Simon Huntington with a full kit of road vehicles features on the front page of the latest issue of the Australian Model Engineer. Photo was taken at the recent Traction Engine Rally held at Horsham, Victoria. Well done Simon.

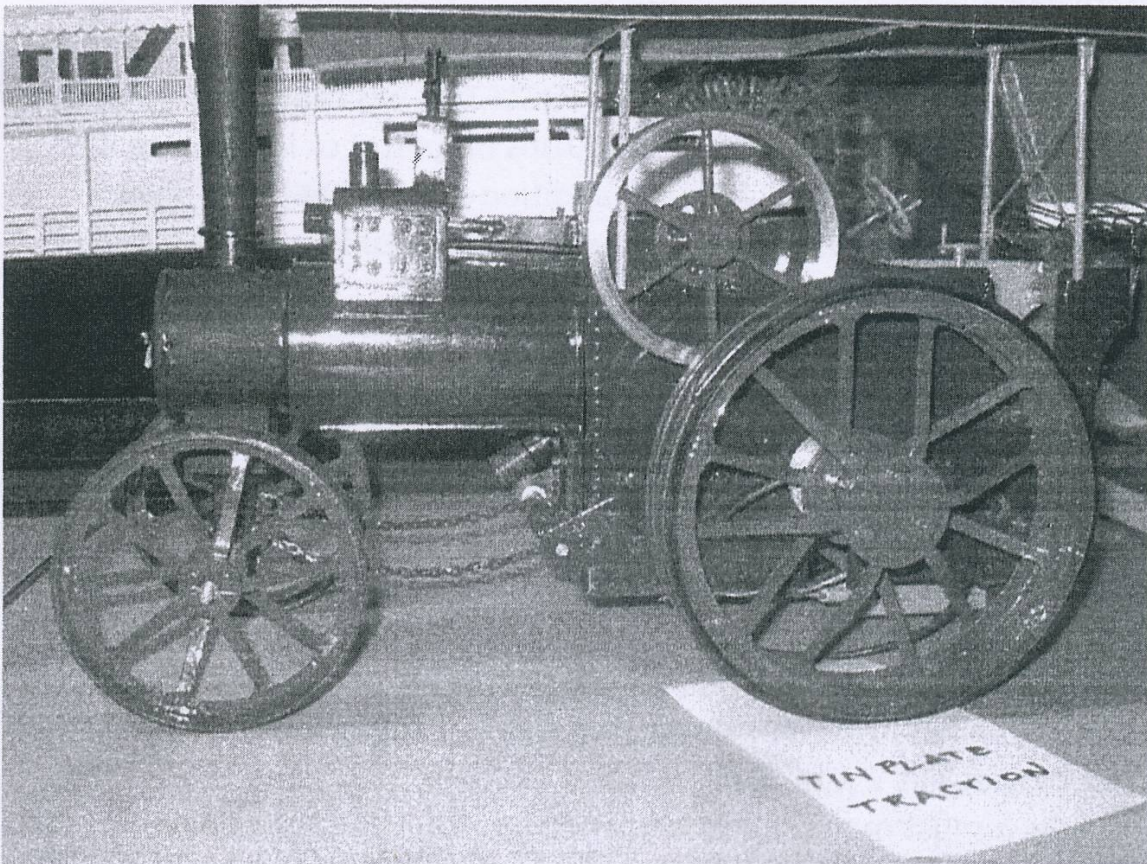
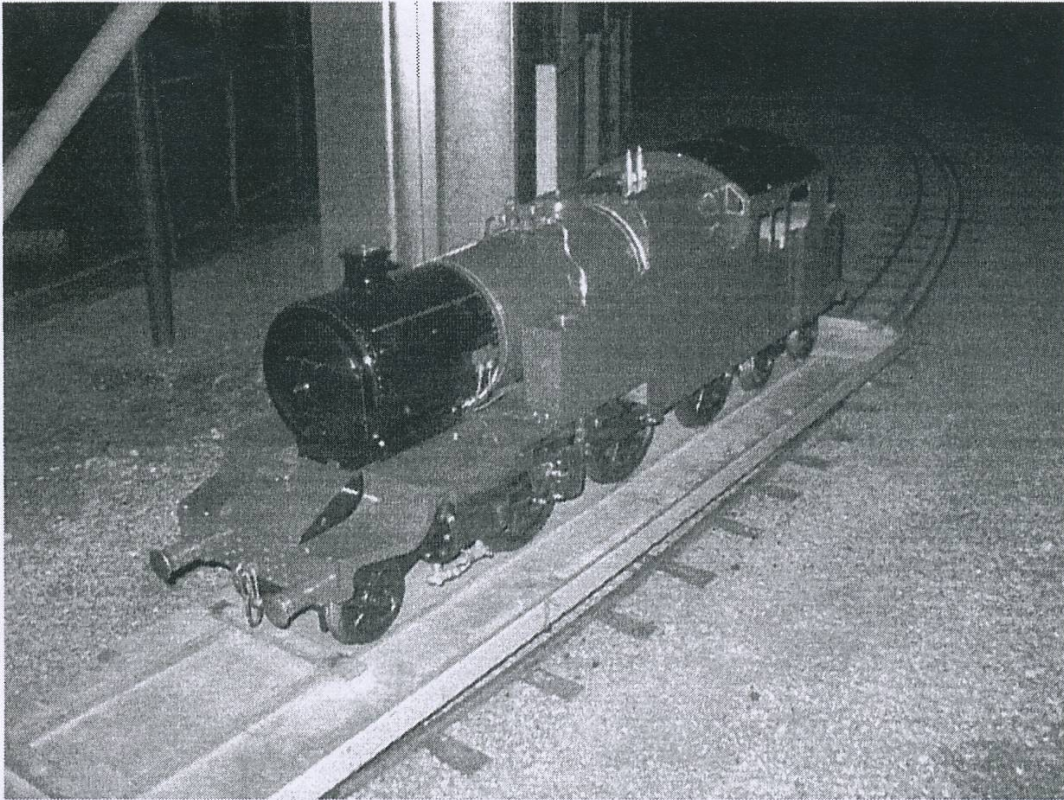


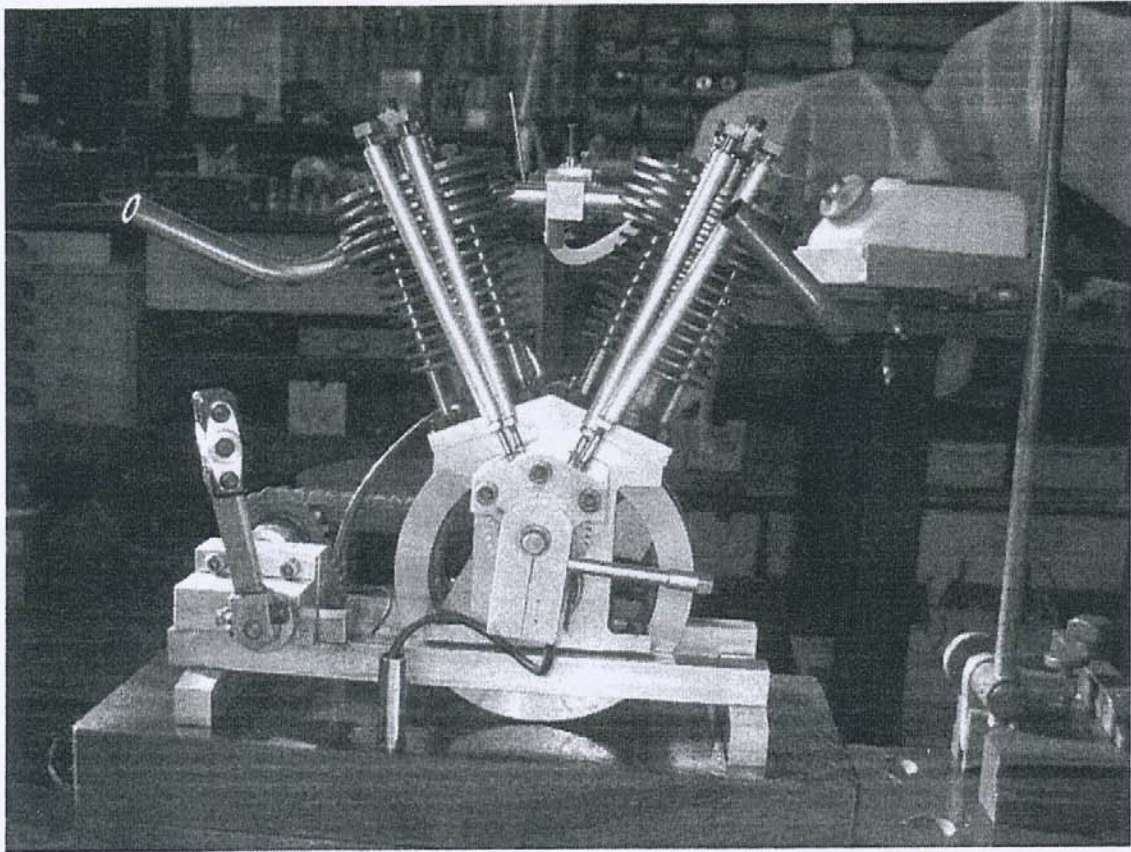












OTHER THINGS.

Article by the Editor.

For interest the above engine [known as a HOGLET] is basically a simple twin cylinder pushrod engine, spark ignition and runs on petrol or in my case a mixture of Shellite [lighter fluid] with the addition of oil. [10%] The design concept and duty cycle is based on a "show and tell" profile. It has a small fuel capacity and no oil pump.

However, mainly hidden are features that require precision machining, such as cast iron piston rings, timing gear cutting which are required to mesh at calculated centres. Machining of stainless steel in/ex valves with collets that at the end of the day **must** seal with mating seats in the cylinder heads.

The camshaft in this engine has 3 lobes, the centre lobe servicing both an intake and exhaust pushrod. The end lobes also operate the intake and exhaust. Camshafts require a high degree of indexing as well as the ability to generate a specified profile. Carburettors are always a problem area in small IC engines, not only design but heart stopping machining. The carby for the Hoglet has 2 jets. Drilling holes at 0.018" [#77] and 0.022" diam. [#74] which must match up to one another requires careful planning and top-end spindle speed!! Put this all together and with a bit [read a lot!!] fiddling about they will run. Have a go and accept the challenges of IC engines.

Garden Railway

Motive Power 2.

Article by Max Shuard.

One of the most common questions (apart from "is that really steam?") asked on run days are the costs and availability of steam locomotives. What sets the garden railway gauges (gauges 0, 1 and 3) apart from the larger model engineering gauges is the large number and variety of commercially available steam locomotives.

There are a number of manufactures, the main ones being:

- Accucraft – European, British and America models,
- Aster – Japanese, British, European and American models,
- Roundhouse – Narrow Gauge English and Colonial models,
- Regner – quirky narrow gauge European models.

For a complete list, suggest you follow the link:

<http://www.nmia.com/~vrbass/steam/steammfr.htm> or Google "Small Scale Live Steam Manufacturers and Suppliers" for a good website that lists suppliers and links to each.

Another site for the beginner is to investigate the website "Things to do with the Accucraft Ruby" on:

<http://www.nmia.com/~vrbass/steam/ruby/rubygallery.htm>

Ruby is a basic 0 4 0 that lends itself to many imaginative variations.

Roundhouse also supplies sub assemblies such as running gear and boilers. The prices vary from less than \$1,000 for a Ruby to over \$10,000 for a fine scale Aster locomotive.

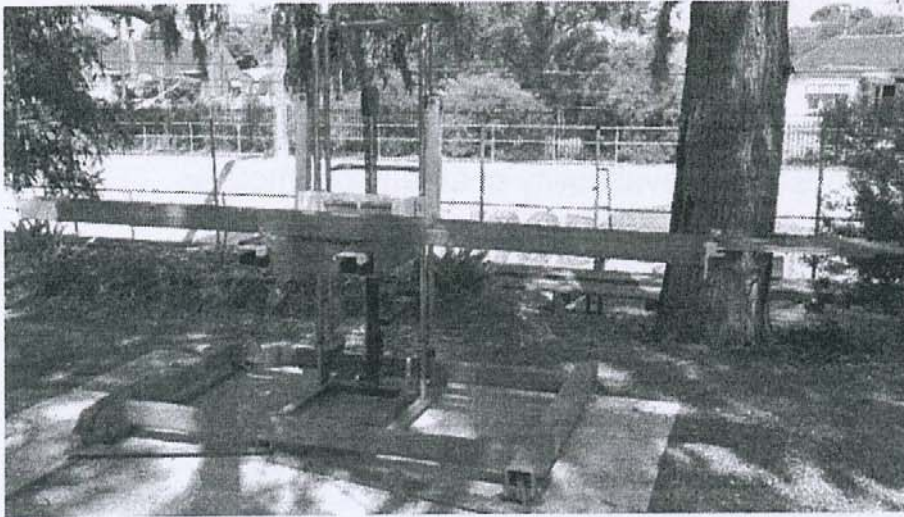
Typical cost of a robust, usable locomotive is of the order of \$1,000 to \$3,000.

Most of these locomotives and kits can be supplied by Argyle Locomotive Works. www.argyleloco.com.au/

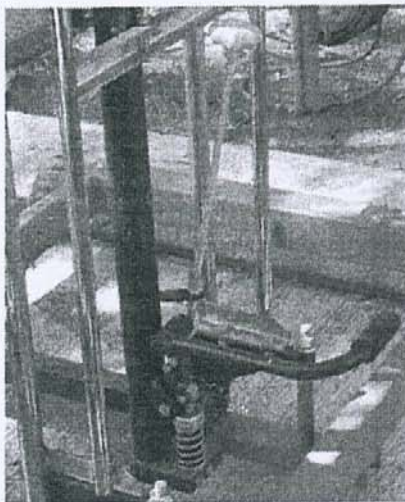
Argyle Locomotive Works also supplies some Australian locomotives.

Editor`s note. Max`s articles are an ongoing informative overview of Garden railways in general.

SASMEE 5" manual/hydraulic loco loader. Article by Bryan Homann

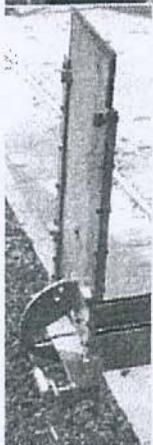


The intention for this loader is to provide track access if there is a failure of the heavier duty battery/hydraulic loader, or if there is a need to use more than one loader at a time. It is operated from the west side so that if both loaders are in use, the operators will be facing each other.



It is of lighter construction than the other loader, but has facility for loading 3½" gauge locos or rolling stock .

The loader is hydraulic, operated up by a foot pedal and down by a hand valve. The foot pedal is shown in the operating position. It is to be lifted to vertical for storage. The yellow knob is used to control lowering. It always returns to closed when released, so lowering requires constant attention.



It has a drop down loading ramp to go to the vehicle carrying the loco. Unlike the heavier loader, this drop down locks into the horizontal position, as well as the near upright storage position. This lock arrangement must be used when loading to or from a road vehicle. The ramp must rest on the road vehicle. If required to provide guidance onto the 3 ½" rails, there is a drop on plate located in the workshop.

Transfer to the rail system is exactly the same as the heavier loader.

Because of the lighter construction, and the manual input require raising a load, it is vital that the load be balanced as close as possible to the centre of the lifter. Failure to do this will result in excessive stress on the mechanism, and more effort to pump it up.

Maximum load is not to exceed 300kg

"TESTING MACHINE TOOLS."

Article compiled by the Editor.

I am fortunate enough to have an original 1938 copy of "Testing Machine Tools" by Georg Schlesinger. This document details a range of tolerances and methods for the development and subsequent assurance of metal/wood cutting machine tools. Commonly known as "Schlesinger Limits" Compliance of machine tools to acceptable limits rest in the contribution by one, Georg Schlesinger.

His background Born in 1874, died 1949. Born to a Jewish family in Berlin, Germany he worked briefly in a mechanics workshop until enrolling in the Technical University in Charlottenburg, West Berlin. He qualified in Mechanical Engineering in 1897 with a prize winning thesis on Control Gears for Steam engines. He began as a design engineer at the Ludwig Loewe & Co AG machine tool factory in 1897 where he paid particular attention to measuring technology, as at that stage there was no recognised acceptance standards for machine tools. He obtained his Doctorate in 1904 for his work on fit classification for machine tool engineering.

During World War 1 Schlesinger was Director of the Royal Prussian Gun Factory in Spandau. He was central to the establishment of a test centre for developing prostheses for the rehabilitation of wounded soldiers. In 1924 he went to the USA to study new developments in machine tool engineering and in the automobile industry.

When the Nazis came to power in Germany in 1933, Schlesinger had to give up his Professorship at the University of Charlottenburg because of his Jewish background. He was arrested and held for 7 months on unsubstantiated claims of spying. In 1934 he fled to Switzerland. In 1934 he travelled to Brussels. In 1939 at the onset of WW2 he emigrated to England where he was appointed Director of the Institution of Production Engineers' Research Centre at Loughborough College in Leicestershire, devoted to production engineering, where he remained until his retirement in 1944, at the age of 70.

Of interest to the Model Engineer will be that, during his sojourn at Loughborough College he was commissioned by the Myford Engineering Company to advise on the design of their new ML7 lathe which was launched commercially in August 1946. The ML7 has stood the test of time remarkably well, having a production run spanning 33 years.

On the morning of the day he died, on October 1949, in London, Schlesinger completed the manuscript for his final work, "The Measurement of Surface Quality"

While working at Ludwig AG in 1901 he started work on establishing acceptance standards for machine tools from this came his first publication in 1927. The original German edition contained in excess of 1000 pages and covered almost every type of machine tool used in industry, including wood working machines. The work has been translated into many languages and is still applicable to CNC machines. The first English translation was in 1932.

In the publication I have [June 1938] it comprise some 66 pages. The method of testing is pictorially shown accompanied by the acceptance criteria. Testing is noted both for static and machines under load.

Test Chart for Finish Turning Lathes up to 400 mm. (about 15½ in.) in Height of Centres		No. 11 Chart 1
Test to be Applied	Fig. No.	Permissible Error
Bed : Bed straight in long. direction ; apron side (convex only)	1a	mm. 0 to 0.02 per 1,000 mm.
Ditto, opposite side	1b	± 0.02 per 1,000 mm.
Bed level in transverse direction	1c	± 0.02 per* 1,000 mm.
Straightness of slide ways (for machines of more than 3 m. (10 ft.) turning length only ; measurements taken by measuring wire band and microscope or long straight edge)	2	0.02 per 1,000 mm.
Tailstock guideways parallel with move- ment of carriage	3	0.02 per 1,000 mm.
Work spindle : Centre point for true running	4	0.01
Centring sleeve for true running	5	0.01
Work spindle for axial slip, measured at 2 points, displaced by 180°	6	0.01
Taper of work spindle runs true : (1) Nearest spindle nose	7	0.01 0.03
(2) At a distance of 300 mm. (12 in.)		
Work spindle parallel with bed in vertical plane (rising towards the free end of mandrel only)	8a	0 to 0.02 per 300 mm.
*Either + or - on full length, no twist permitted.		

{In compiling this article acknowledgement is given to Mr Allan J. Bester the author of "No Limits: Georg Schlesinger" from which selected information has been extracted.}

Testing Lathes

11, 12, 13

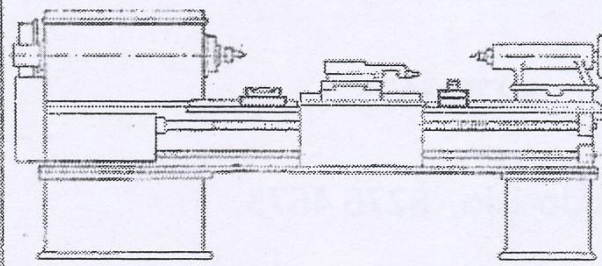


Fig. 1

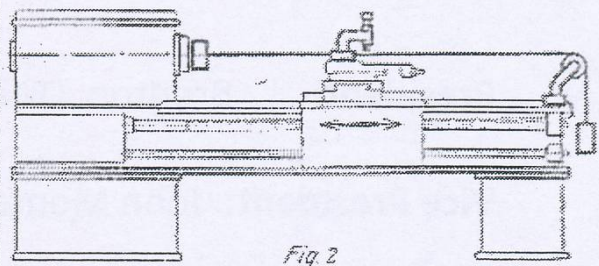


Fig. 2

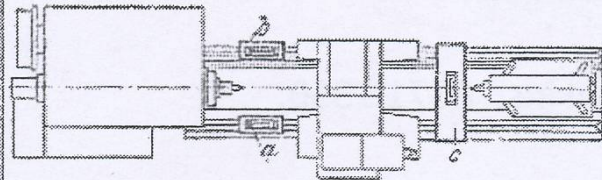


Fig. 3

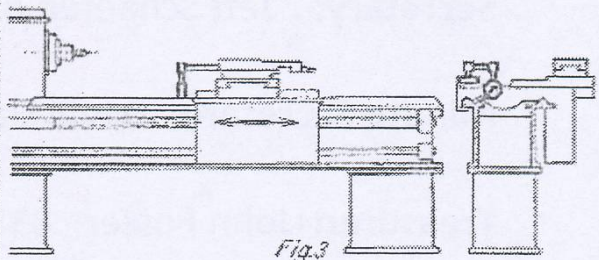


Fig. 4

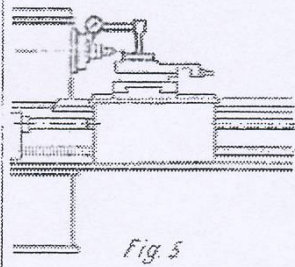


Fig. 5

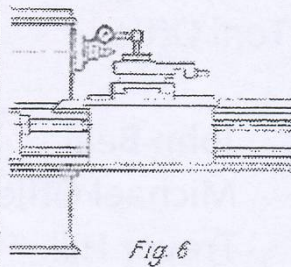


Fig. 6

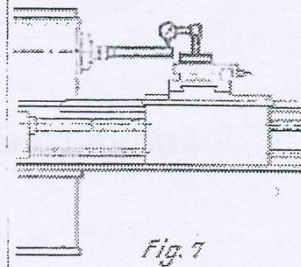


Fig. 7

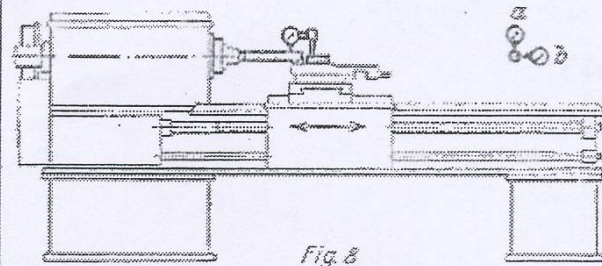


Fig. 8

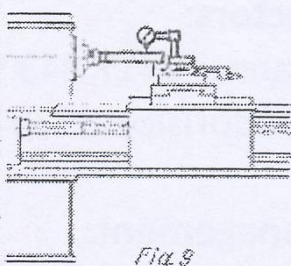


Fig. 9

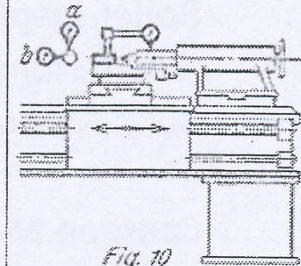


Fig. 10

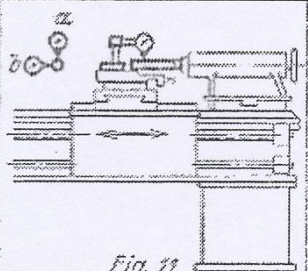


Fig. 11

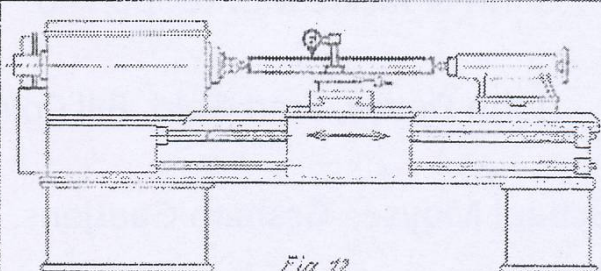


Fig. 12

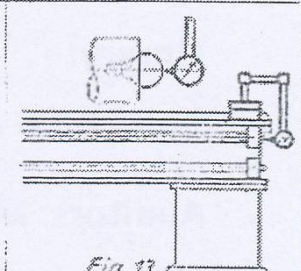


Fig. 13

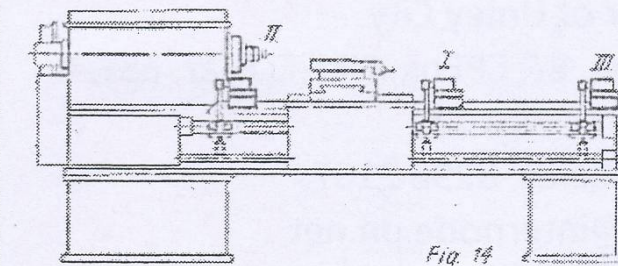


Fig. 14

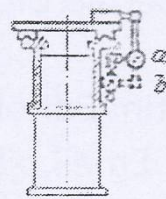
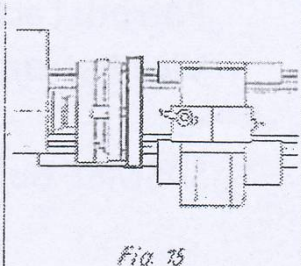


Fig. 15



SASMEE OFFICE BEARERS AND COMMITTEE FOR THE PERIOD 2016-2017

President: Brenton Dicker, 8270 3175.

Vice President: John Monteodorisio, 8276 4675.

Secretary: Jeff Schaefer 8298 6927

Minute Secretary: David Hawkins: 8371 1350.

Treasurer: John Foster. 83363119.

Accounts: Mary Homann. 0429 901 576
Toni Offler.

Committee; John Beal
Michael Offler.
Trevor Hill.

Boiler Inspectors:

Bryan Homann. 0417 843 945
John Monteodorisio, 8276 4675

Canteen Management:

John & Jackie Monteodorisio.

Library:

John Davey, Fred Gold, Bill Coles.

Auditors: Michael Moyse, Graham Gaetjens.

Patron: Lachlan Cline, Mayor of Unley City.

Vice Patron: Bernie Dickinson, BA CPEng, FIFE, Fi Mar. EST.

SASMEE Bulletin: Editor, Bill Coles, 8296 2167.

Email, bjhove@internode.on.net

SASMEE Postal Address, PO Box, 208 Goodwood. SA 5034